**SocialTube: P2P-assisted Video Sharing in Online Social Networks**

**ABSTRACT:**

Video sharing has been an increasingly popular application in online social networks (OSNs). However, its sustainable development is severely hindered by the intrinsic limit of the client/server architecture deployed in current OSN video systems, which is not only costly in terms of server bandwidth and storage but also not scalable with the soaring amount of users and video content. The peer-assisted Video-on-Demand (VoD) technique, in which participating peers assist the server in delivering video content has been proposed recently. Unfortunately, videos can only be disseminated through friends in OSNs. Therefore, current VoD works that explore clustering nodes with similar interests or close location for high performances are suboptimal, if not entirely inapplicable, in OSNs. Based on our long-term real-world measurement of over 1,000,000 users and 2,500 videos on Facebook, we propose SocialTube, a novel peer-assisted video sharing system that explores social relationship, interest similarity, and physical location between peers in OSNs. Specifically, SocialTube incorporates four algorithms: a social network (SN)-based P2P overlay construction algorithm, a SN-based chunk prefetching algorithm, chunk delivery and scheduling algorithm, and a buffer management

Algorithm. Experimental results from a prototype on PlanetLab and an event-driven simulator show that SocialTube can improve the quality of user experience and system scalability over current P2P VoD techniques.

**EXISTING SYSTEM:**

In recent years, much effort has been devoted to improving the client/server architecture for video sharing, with the peer-to-peer (P2P) architecture being the most promising. P2P-based video sharing has been used in on-demand video streaming (e.g., GridCast and Vanderbilt VoD). With each peer contributing its bandwidth to serving others, the P2P architecture provides high scalability for large user bases. Previous P2P VoD systems either randomly cluster peers for video inquiry or form certain peers into a distributed hash table (DHT) for chunk indexing.

**DISADVANTAGES OF EXISTING SYSTEM:**

Videos can only be disseminated through friends in OSNs

**PROPOSED SYSTEM:**

We propose SocialTube, a system that explores the social relationship, interest similarity and location to enhance the performance of video sharing in OSNs. Specifically, an OSN has a social network (SN)-based P2P overlay construction algorithm that clusters peers based on their social relationships and interests. Within each cluster, nodes are connected by virtue of their physical location in order to reduce video transmission latency. SocialTube also incorporates an SN-based chunk prefetching algorithm to minimize video playback startup delay.

**ADVANTAGES OF PROPOSED SYSTEM:**

To our knowledge, this work is the first that studies the distinct characteristics of OSN video sharing that vary from other content-based system-wide video sharing, and builds a P2P-based video sharing system in an OSN by leveraging those characteristics for higher performance.

# SYSTEM ARCHITECTURE:

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